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EXAMINER

LY, CHEYNE D

ART UNIT PAPER NUMBER

2168

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/726,007

Applicant(s)

FOLEY ET AL.

Examiner

Cheyne D. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/13/06; 3/27/06; 12/19/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

1. Claims 1-41 are examined on the merits.

**CLAIM REJECTIONS - 35 U.S.C. § 112, SECOND PARAGRAPH**

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 1 recites “a storage environment” in line 1, and “a computer implemented method” in lines 4-6, which cause claim 1 to be vague and indefinite because the metes and bounds of said claim is not clear. For example, claim 1 is not clear as to whether said claim is directed to a method or product. Clarification of the metes and bounds is required. The same issue is present in claim 12. Claims 2-11 and 13-20 are rejected for being dependent from claim 1 or 12.

**Claim Rejections - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1-9, 11-28, and 30-41 are rejected under 35 U.S.C. 102(a) as being anticipated by Bolik et al. (June 2002) (Bolik hereafter).

## **CLAIM INTERPRETATIONS**

7. The instant specification discloses “[t]he tag file stores information that can be used to locate the migrated data...The tag file may contain attributes or metadata of the migrated file” (paragraph [0005]). Bolik does not explicitly disclose the limitation of “tag file.” However, Bolik discloses “the HSM client stores a unique, file system-specific identifier...with the file on the HSM server” (tag). The “HSM system stub file provides important information such as where the actual data is located on the server” (page 1, column 1, [0004]). Further, Figure 4 of Bolik describes the “[r]econciliation process compares files identified by their corresponding ID with the corresponding files in the file system.” The disclosure of storing a unique identifier for each file and stub files that can be used to locate the migrated data has been interpreted as “tag file” and “the corresponding files in the file system” has been interpreted as “data file.”

8. In regard to the limitation of “inconsistency”, Bolik via Figure 4 discloses a “reconciliation process” which as been attributed with the customary and ordinary meaning of to make compatible or consistent. Therefore, one of ordinary skill in the art would conclude that the identifying of “inconsistency” is inherent in the “reconciliation process” of Bolik.

## **PRIOR ART**

9. In regard to claim 1, Bolik discloses a computer-implemented method of maintaining consistency of the file system of the first server (page 3, [0040], especially, “HSM server stores data, migrated from the file server to the tape storages”), the method comprising:

Providing first information comprising information related to the plurality of files stored in the file system of the first server (page 3, [0043]), the first information comprising a plurality of entries, each entry corresponding to a file and storing status information

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identifying whether the file is a tag file (page 3, column 2, [0046]) or a data file (page 3, column 2, lines 1-4), each entry storing attributes information identifying one or more attributes of the file (page 3, column 2, [0047]);

Comparing the plurality of files to information included in the first information (page 5, [0077] to column 2, [0086]), especially, “if the attributes...**match**...”, and Figure 4);

Identifying, based on the comparing, at least a first inconsistency where information associated with a first file from the plurality of files is inconsistent with information in the first information (page 5, [0077] to column 2, [0086]); and

Performing a first set of one or more operations to resolve the first inconsistency (page 5, [0077] to column 2, [0086], especially “mark files for removal...”).

10. In regard to claim 2, Bolik discloses identifying at least a first entry in the first information that stores status information identifying a file as a tag file (page 5, column 1, [0080], especially, “marking each unmodified migrated file as found (status)...”) and for which there is no corresponding tag file in the plurality of files; and performing a second set of one or more operations for the first entry (page 5, column 1, [0081], especially, “all files in the server list not marked “found” will be marked for removal”, and column 2, [0086], especially, “the HSM client loops through the remove list, and marks each of them for **removal** from the server storage pool” (second set of operations).

11. In regard to claim 3, Bolik discloses determining, based upon information in the first entry, if a repository file exists corresponding to the first entry (page 5, column 1, [0080], especially, “marking each unmodified migrated file as found...”), and deleting the first entry from the first information upon determining that a repository file corresponding to the first entry

does not exist (page 5, column 1, [0081], especially, “all files in the server list not marked “found” will be marked for removal”, and column 2, [0086], especially, “the HSM client loops through the remove list, and marks each of them for **removal** from the server storage pool” (second set of operations).

12. In regard to claim 4, Bolik discloses the claimed invention as cited above. Further, the “creating a tag file...” step has been interpreted as a conditional statement wherein the step is only performed when the specified condition “that a repository file corresponding to the first entry exists” has been met. Or the step is not performed when said condition has not been met. Therefore, the step of “creating a tag file...” has been interpreted as being optional. Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed. (see MPEP 2111.04 [R-3]).

13. In regard to claims 5-7, Bolik discloses the claimed invention as cited above. Further, Bolik disclose “[i]n addition to the migrated and resident states of a file, some HSM systems provide a third state: premigrated” and “the list of migrated files, in particular by use of the unique ID stored in the list or array, from which the server as before, but now the server list includes the file id for each entry” (page 5, column 1, [0082] to [0083]), which anticipate the limitation of a generic “second information.”

14. In regard to claims 8 and 11, Bolik discloses the claimed invention as cited above. Further, Bolik discloses “[r]econciliation process updates the managed data on the HSM server” (claim 13 and Figure 4), which has been interpreted as “updating...” of claims 8 and 11.

15. In regard to claim 9, Bolik discloses the claimed invention as cited above. Further, Bolik discloses “[o]therwise the entry will be added to a list in client memory...(page 5, column 1, last

line, to column 2, line 3), which has been interpreted as “performing a first set of one or more operations comprises adding an entry...” of claim 9.

16. In regard to claims 12-28 and 30-41, Bolik discloses the claimed invention as cited above.

### **Claim Rejections - 35 USC § 103**

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 10 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolik et al. (June 2002) (Bolik hereafter) as applied to claims 1-9, 11-28, and 30-41 above.

In regard to claims 10 and 29, Bolik describes all the limitations of claims 10 and 29, except for the limitation of “adding a second entry to the first information for the first file.” However, Bolik describes “for each entry from the server list received...the entry will be added to a list in client memory...” as directed to all entries (page 5, column 1, [0082], to column 2, [0086]).

Further, Bolik describes the invention provides scalability and significant performance improvement of such HSM system. An artisan of ordinary skill in the art at the time of the instant invention would have been motivated to add "second entry..." to improve the performance of the HSM system. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use the invention as described by Bolik with a second entry to improve the performance of the HSM system.

20. Further, the addition of "second entry" has been interpreted as a mere duplication of the addition of the first entry (duplication of parts) as described by Bolik. The court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

### **CONCLUSION**

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Cabrera et al. (US 6,981,005 B1) and Dunham (US 6,269,431 B1).

22. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete



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23. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

C. Dune Ly  
Patent Examiner  
9/4/06

